Dow Corning Corporation

v.

Weather Shield Manufacturing, Inc., et al.

Case No. 09-10429

EXHIBIT B

Expert Report

CAS-MI LABORATORIES

Project # 02673

Expert Report

DOW CORNING CORPORATON v. WEATHER SHIELD MANUFACTURING, INC., SNE ENTERPRISES, INC., AND PEACHTREE DOORS AND WINDOWS,INC.

Case No. 09-cv-10429-BC

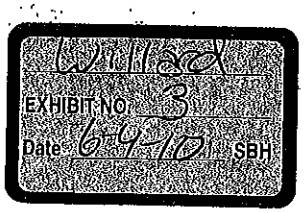
Prepared for:

Nantz, Litowich Smith, Girarad & Hamilton
2025 East Beltline, SE
Suite 600
Grand Rapids, MI 49546

By:

G. Fred Willard, Ph.D.
Vice President – Technology

December 9, 2009



Expert Report

DOW CORNING CORPORATON v. WEATHER SHIELD MANUFACTURING, INC., SNE ENTERPRISES, INC., AND PEACHTREE DOORS AND WINDOWS,INC.

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Project No. 02673

I. INTRODUCTION

I, G. Fred Willard, Ph.D., submit this expert report in connection with the case involving Dow Corning Corporation v. Weather Shield Manufacturing, Inc., SNE Enterprises, Inc., and Peachtree Doors and Windows, Inc. in the United States District Court for the Eastern District of Michigan Northern Division, Case No. 09-cv-10429-BC.[1] This case involves the use of a silicone based hot melt adhesive and glaze in the manufacture of windows and doors.

On or about September 27, 2002, Dow Corning and Weather Shield met to discuss using InstantGlaze products as a replacement for the traditional glazing tape used in window and door assembly operations in Weather Shield plants.[2] Weather Shield began to evaluate Dow Corning InstantGlaze products about April 11, 2005[3] based on requirements discussed earlier on or about February 4, 2005.[4] A glazing table was converted to InstantGlaze II about August 25, 2005 with plans to convert more lines in September. Temperatures on the pump, hoses, and nozzles were lowered.[5] InstantGlaze II was started on a patio door line at Park Falls (Wisconsin) on June 8, 2005.[6] Park Falls evaluated both InstantGlaze products about September 26, 2005. InstantGlaze I was found to have issues with skip/non-fill areas, bead surges with excessive material at the starting point, and bead thinning just after the corner. InstantGlaze II had issues with bead surges at the starting point of the bead and bead thinning at corners.[7] Greenwood (Wisconsin) evaluated both InstantGlaze products about September 26, 2005. InstantGlaze I had an issue along the top horizontal axis of caulk droop down towards the edge of the glass shelf and also away from the edge of the glass shelf. There was inconsistent bead after a barrel change.[8] By about September 26, 2005, InstantGlaze I had been used for about one year at all the manufacturing facilities. Due to processing issues with InstantGlaze I at the Weather Shield plants, InstantGlaze II was also implemented at most facilities.[9] Dow Corning intended to ship InstantGlaze II batches to Weather Shield after November 3, 2005. They were in the process of tying up loose ends on the commercialization of InstantGlaze II.[10]

About January 17, 2006, InstantGlaze I with a plasticity of 1.07 mil was being evaluated at Park Falls on the sliding patio door line. Several machine adjustments were made to get the product to run better.[11] On about May 5, 2006, the Mosinee Wisconsin plant (an SNE facility) had essentially no issues with InstantGlaze, and the Huntington (West Virginia) plant (an SNE facility) was doing only minimal clean up of squeeze out.[12] On about May 5, 2006, there were no glaring issues at Millwork at Medford, Wisconsin.[13] However, on about May 5, 2006, leaking issues were being experienced at the Park Falls plant and all the sashes were being cleaned to remove the InstantGlaze.[14]

Eventually Dow Corning set a plasticity range for InstantGlaze I from 0.85 to 1.25 mil and a plasticity range for InstantGlaze II from 0.50 to 0.80 mil.[15] Dow Corning believed that the major difference between InstantGlaze I and II was the plasticity.[16] These ranges were too broad for Weather Shield to allow them to adjust their window manufacturing process.

II. PREPARATION

In preparing this report, I have relied upon the following documents:

1. Complaint filed by Dow Corning.
2. Deposition Exhibit 1 (DC 01506)
3. Memo dated February 4, 2005, 000637.
4. Memo from Dan Nordgren to Scott Townsend et. al, August 25, 2005, 001637.
5. Memo from Dale Rasmussen to Ryan Curtis et.al., April 13, 2005, 001233.
6. Memo from Kenneth Rubis of Dow Corning, June 10, 2005, 001220 to 001223.
7. John Peterson, InstantGlaze I and II Plant Evaluation, September 26, 2005, 001130 to 001133.
8. Robin Peterson, InstantGlaze I & II Plant Evaluation, September 26, 2005, 00113 to 001117.
9. Memo from Bobby Wintz to Tim Dragoo, September 26, 2005, 001119 to 001120.
10. Memo from K. J. Rubis of Dow Corning to Bob Kench et.al. of Dow Corning, November 3, 2005, 001691.
11. Memo from Ron Lahnala to Rick Laher, May 5, 2006, 001620.
12. Memo from Daniel Nordgren to Rick Laher, May 5, 2006, 001645.
13. Memo from Ron Lahnala to Rick Laher, January 17, 2006, 001653.
14. Memo from Gary Strobach to Rick Laher, April 26, 2006, 001681.
15. Memo from Daniel Nordgren to Clancy Felch et. al., October 7, 2005, 001688.
16. Memo from Aaron Crabb to Steve Wilkening, October 13, 2005, 001720.
17. CAS-MI Technical Report 02548, November 27, 2009.
18. Deposition of Daniel J. Nordgren, November 11, 2009.
19. Deposition Exhibit 33 (DC 02165)
20. Deposition Exhibit 32 (DC 00747)
21. Deposition of Daniel J. Nordgren, Ibid., p. 101.
22. Ibid. p. 127.

III. EXPERT QUALIFICATIONS and BACKGROUND

Dr. G. Fred Willard
435 Joe Hall Dr.
Ypsilanti, MI 48197

888-772-9000
E-mail: fwillard@cas-mi.com

Academic Credentials:

Ph.D. in Organic Chemistry — **Georgia Institute of Technology**
Specialized Studies in Organometallics and Textile Engineering — **Atlanta, Georgia**

Bachelor of Science Degree — Marshall University
Major in Chemistry — Huntington, West Virginia

Career History:

Vice President – Technology — February, 2004 – Present
CAS-MI Laboratories LLC — Ypsilanti, MI

- General **management** of new site.
- Customer contact for incoming projects to **resolve consumer-related problems.**
- Expertise in formulations, **paints, coatings, inks,** and material identifications.
- Established new **business operating systems.**
- Served as **research analyst and expert witness** on customer complaint litigations.

Director – Project Development — November, 2003 – January, 2004
Chemir Analytical Services — Maryland Heights, MO

- Received requests and distributed to staff chemists to **resolve consumer-related problems.**
- Identified materials, **analyzed for contamination** and **deformulated** plastics.
- Supervised/**conducted test protocols** on tensile, flexure, impact, and permeation properties.
- Participated on **Management Team to optimize business development** opportunities.
- Served as **research analyst and expert witness** on customer complaint litigations.

Director of Quality and Technology — 2001-2003
SDR Plastics, Inc. — Ravenswood, WV

- Responsible for quality and technology at two sites for plastics recycling and compounding.
- Supervised quality control laboratories, formulators, and new product development.
- Coordinated UL audits and sample submissions for UL cards on new materials.
- Served as the primary contact for complaint resolution.
- Developed and implemented new test methods in response to customer needs.
- Worked with Manufacturing to improve pellet quality, install a new die head system, streamline recycle handling, and increase line rates.
- Worked with Sales to introduce new products: eco friendly FR PCABS, low temperature PCABS for automotive specifications, low temperature impact PC, and a special glass fiber reinforced FR PC.
- Coordinated customer trials in blending, extrusion, injection molding, and physical property testing.
- Encouraged staff to document work with technical reports.
- Conducted DOE experiments in formulation and process studies.
- Trained laboratory personnel in FTIR sampling techniques and UL FR techniques.
- Involved in creative problem solving.
- Prepared datasheets for Sales on new products.

President/CEO — 1999-2001
Frontier Valley Associates/Sustainable Technologies Corp. — St. Charles, MO/Carmel, IN

- Simultaneously served as **Chief Executive Officer** of regional start-up company and technical consulting firm; reporting directly to the Board of Directors.
- Developed strategic plans for developing and marketing novel absorbent materials for clean up of spills, while **reducing cost of production by 50%.**

- Interfaced with outside vendors in the areas of marketing, production, office/bookkeeping procedures, raw material acquisition, storage, powder blending, and packaging.
- Hired, fired, and trained all personnel for technology department and marketing support.
- Defined all polymeric absorbent formulations to optimize cost, performance, and patenting.
- **Used diverse background in polymer** synthesis, polymer formulation, polymer additives, polymer testing, and polymer processing to solve problems and assess realistic product development.
- Established and implemented **quality standards and training programs** for manufacturing plants to **enhance** customer **service**, leadership development, management process, and **sales**.

Director: Material Science Section **1996-1999**
Chemir/Polytech Laboratories, Inc. **St. Louis, MO**

- Received requests and distributed staff chemists to **resolve consumer-related problems** involving plastics, metals, glass and wood materials in a production environment.
- Identified materials, **analyzed for contamination** and **deformulated** plastics.
- Supervised/**conducted test protocols** on tensile, flexure, impact, and permeation properties.
- Participated on **Management Team to optimize business development** opportunities.
- Served as **research analyst and expert witness** on customer complaint litigations.
- Took initiatives to **increase product knowledge** of sales staff, new product competence led to **sales increase from $1.8M to $4M** over 36 months.

Team Leader/Application Technologist **1991-1996**
General Electric Specialty Chemicals **Parkersburg, WV**

- Supervised **new product development** and manufacturing in polymer division.
- Developed new products and technologies for **non-olefin and liquid phosphates.**
- Handled all international sales requests pertaining to applications for **asphaltic materials.**
- Served as **technical support in polycarbonate and polyphenylene ether applications.**
- Provided **technical service for Blendex** impact modifier products.
- Served as **key liaison between customer expectation and manufacturing** order fulfillment.
- Interfaced with test rationalization, quality development, customer trials, and redesign.
- **Multi-departmental supervision** included: sales, manufacturing, technology, and quality.
- Supervised 12 technicians in all **physical property testing.**
- Sole management responsibility for the Application Development Center, safety, building maintenance, equipment repair, and technical training.
- Acquired/monitored **$500K capital equipment overhaul** including manufacturing equipment and LAN administration network.

Advanced Polymer Chemist **1987-1991**
General Electric Plastics **Pittsfield, MA**

- **Specialized product development** in polymer chemistry, aromatic diamines, nylon polymers, and amorphous polymers.
- Established **patented processes for plastic utilization** in multi-layer bottles and various automotive applications.
- Products were developed for **Dusseldorf K '89 Plastics Show.**
- Identified specific customer need and developed **custom product** to fulfill orders.
- Established test strategies to confirm manufacturing while **reducing time of delivery 50%.**
- **Supervised International Pilot Plant** specializing in nylon products.
- Consulted with German engineers on construction of Pilot Plant to produce **3M pounds/year.**

- Worked with process engineers to determine **parameters and specifications for production.**

Senior Scientist 1978-1986
Owens-Corning Fiberglass Granville, OH

- Worked with marketing department to **identify new product offering.**
- Created first rubber modified asphalt, basement wall waterproofing membrane.
- **First scientist to develop liquid crystal polymer synthesis** for pilot production.
- This new product **led to development of a new technology and an independent company.**
- Process became the basis for a joint venture project – Granmont Incorporated.
- Researched and developed **first gas curable binder system based on furan resin chemistry.**
- **Built new equipment** to demonstrate production capabilities for insulation products.
- **Constructed pilot scale machine** to impregnate and cure glass fiber mats.

Professional Awards:

- GE Plastics' Don Jacquis Award, Marketing Technologist of the Year – 1990
- GE Plastics' 1990 Team of the Year for multilayer, one gallon container program
- GE Plastics' Pittsfield Technology Team of the Year – 1989
- Graduate Magna Cum Laude, Georgia Tech – 1978
- ACS Award for Outstanding Senior Chemistry Major – 1972
- Member Phi Eta Sigma Freshman Honorary - 1968

Professional Memberships:

- American Chemical Society
- Society of Plastics Engineers
- Detroit Society for Coatings Technology

Publications:

R. Avakian, P. Gardner, H.C. Ashton, F. Willard, and G. Fields, "Stabilization Considerations in Thermoplastic Polyolefins", presented by H.C. Ashton at "Weathering of Plastics – Seminar", April 27-28, 1995, Medellin, Columbia.

P. Gardner, F. Willard, and G. Field, "Stabilization Considerations in Thermoplastic Polyolefins", SPE ANTEC 94, San Francisco, May 1-5, 1994.

G.F. Willard, "Opportunities and the Industrial Chemical Engineer", seminar presented at WVU Dept. of Chemical Engineering, April 5, 1994.

G.F. Willard, "The Application of Plastics in Gas Barrier Envelopes", seminar presented at the 1991 ASHRAE Conference, Indianapolis, June 25, 1991.

N. Caffentzis and G.F. Willard, "Gelon A100 Amorphous Nylon in Packaging Applications", Proceedings of Future-Pak '90, Eighth International Ryder Conference on Food Packaging Innovations, page 5 (September 26-28, 1990).

E.C. Ashby and G.F. Willard, "A non-isothermal kinetic study of the thermal decomposition of magnesium alkoxides and amides", **J. Organomet. Chem., 202,** 241 (1980).

E.C. Ashby and G.F. Willard, "New, convenient, and stereospecific method for the dehydration of alcohols. Thermal decomposition of magnesium, zinc, and aluminum alkoxides", **J. Org. Chem. 44** (8), 1221 (1979).

George Fredrick Willard, Jr., "Reactions of the alkoxides and amides of magnesium, zinc, and aluminum", Ph.D. Thesis, Georgia Institute of Technology, 1978.

E.C. Ashby and G.F. Willard, "A new, convenient, and stereospecific method for the conversion of secondary amines to primary amines and olefins. Thermal decomposition of magnesium, zinc, and aluminum amides", **J. Org. Chem., 43** (25), 4750 (1978).

E.C. Ashby and G.F. Willard, "Stereospecific alkylation of cyclic ketones by dialkylamino- and aryloxy (methyl) magnesium compounds", **J. Org. Chem., 43** (21), 4094 (1978).

A.R. Lepley, P.M. Cook, and G.F. Willard, "Proton magnesium resonance emission in the intramolecular rearrangement of a tertiary amine oxide", **J. Am. Chem. Soc., 92** (4), 1101 (1970).

Product Development/Patents Received:

G. Fred Willard, "Asphalt Compositions Containing Acrylonitrile-Butadiene-Styrene Copolymer", US 5,710,196 (January 20, 1998).

G. Fred Willard, "High rubber backing multilayer ABS system which exhibits improved chemical resistance to HCFC blowing agents", US Patent 5,486,407 (January 23, 1996).

R.L. Jalbert, S. Vilasagar, W.J. Peascoe, and G.F. Willard, "Impact modifier vinyl chloride resin composition, and graft copolymer compositions", US Patent Application No. 348435 (February 12, 1994); European Application Mo. 95308182.5-2109 (November 15, 1995).

T.M. Klerks, R.S. Thayer, G.F. Willard, T.P. Dunton, and J.H.C. Young, "Multilayer Container of Polycarbonate and Amorphous Polyamide of Improved Barrier and Stress Crack Resistant Properties", US Patent 5,439,718 (August 8, 1995).

G. Fred Willard, "Multilayered structures comprising polycarbonate layers and functionalized polyamide layer," U.S. Patent 5,352, 499 (October 4, 1994).

G. Fred Willard, "Thermoformable, multilayer ABS films and equipment liners", US Patent 5,324,589 (June 28, 1994).

T.P. Dunton, R.S. Thayer, and G.F. Willard, "Multilayer container of polycarbonate and amorphous polyamide layers", CA 2097647 (February 2, 1994).

G. Fred Willard, "Retardation of crystallization of amorphous polyamide using minor amounts of polycarbonate", EP 580359 (January 26,1994).

D.L. Mendel and G.F. Willard, "Amorphous polyamide composition containing carbon black", CA 2039136 (July 11, 1992).

R.B. Allen, W. Bobal, R.C. Bopp, F.L. Sanford, and G.F. Willard, "Preparation of expandable microparticles of thermoplastic resin – by plasticizing resin, extruding and impregnating with blowing agent", CA 2030646 (June 28, 1991).

H.F. Giles, E.N. Peters, G.H. Riding, T.V. Thimons, and G.F. Willard, "Polyamides derived from toluenediamine", EP 379731 (Aug. 1, 1990); U.S. Patent 4,516,996 (May 14, 1991).

E.N. Peters, G.H. Riding, and G.F. Willard, "Polyamide from Toluenediamine", US Patent 5,015,726 (May 14, 1991).

D.L. Roberts and F. Willard, "Foamed Blends of Nylon 6,I/T and Polycarbonate", US Patent 4,999,384 (March 12, 1991).

D.W. Fox, E.N. Peters, G.H. Riding, and G.F. Willard, "Amorphous polyamide having excellent oxygen barrier properties – obtained by reacting para-xylenediamine with adipic and isophthalic acids", US Patent 4,983,719 (January 8, 1991).

D.C. Claggett, D.M. Handler, L.M. Maresca, S.J. Shafer, and G.F. Willard, "Polycarbonate container having internal layers of amorphous polyamide", US Patent 4,937,130 (June 6, 1990).

R.F. Shannon and G.F. Willard, "Plant Growing Medium", U.S. Patent 4,777,763 (October 18, 1988).

A.V. Grossi and G.F. Willard, "Asphalt Emulsions – Polyacrylamide Used as a Thickening Agent for Asphalt Emulsions (SD-90)", U.S. Patent 4,772,647 (September 20, 1988).

G.F. Willard, M.R. Wait, D.A. Hutchings, and S.K. Lauderback, "Continuous Production of Pipe from Particulate Material – Coated with Resin Curable by Acid Gas and Oxidizing Agent", U.S. Patent 4,685,873 (August 11, 1987).

E. Boudreaux, Jr., D.M. Lee, D.A. Hutchings, G.N. Sieloff, and G.F. Willard, "Melt Processable Optically Anisotropic Polymer Processing", U.S. Patent 4,668,760 (May 26, 1987).

D.M. Lee, D.A. Hutchings, G.M. Sieloff, and G.F. Willard, "1-Phenylethylhydroquinone Production from Styrene and Hydroquinone", U.S. Patent 4,661,645 (April 28, 1987).

D.A. Hutchings, G.M. Sieloff, D.M. Lee, and G.F. Willard, "Polyester Formed from Terephthaloyl Chloride, Hydroquinone, and Styrenated Hydroquinone", U.S. Patent 4,614,791 (September 30, 1986).

D.A. Hutchings, G.M. Sieloff, D.M. Lee, and G.F. Willard, "Direct Solution Polymerization of Chlorophenylene (8-17), 1-Phenylethylphenylene (33-42) Terephthalate", U.S. Patent 4,614,790 (September 30, 1986).

D.M. Lee, D.A. Hutchings, G.M. Sieloff, and G.F. Willard, "Melt Processable Optically Anisotropic Polymers", U.S. Patent 4,600,765 (July 15, 1986).

G.F. Willard and D.A. Hutchings, "Formation of Molded Glass Fiber Parts from Glass Fiber Blankets and Product", U.S. Patent 4,516,996 (May 14, 1985).

Trials

1. JOM, Inc., d/b/a Chipco International, Ltd. (Plaintiff)
   v.
   Adell Plastics, Inc. (Defendant)

   United States District Court for the District of Maine
   June 30, 1997
   Portland, ME

   On the side of Defendant: Bernstein, Shur, Sawyer, and Nelson; Portland, ME
   (Mary Elizabeth Fougere 207-774-1200)
   Case involved poker chips; conducted testing to show no difference in chips during modified abrasion test.

   Case was won; lost in appeal; but saved client over $800,000 in damages.

2. Chem-Trend Incorporated
   v.
   Newport Industries, Inc.

   United States District Court
   Eastern District of Missouri
   Eastern Division
   Case number: 4:97CV1608FRB

   On the side of the Defendant: O'Reilly, Rancilio, Nitz, Andrews, and Turnbull, P.C.
   (Bert Ross 810-726-1000)
   Case regarding trade secret violation of mold release chemicals; court appearance to stop an injunction.

3. S C Technologies, LLC (Defendant)
   v.
   Advanced Coated Plastics (Plaintiff)

Orange County Court House (Costa Mesa, CA)
Orange County Superior Court
Case number: 775241

On the side of the plaintiff: The Rudolph Law Group
(George Rudolph 714-545-7272)

February 1, 1999

Case regarding trade secret infringement; electrostatic dissipative coating

Case was won.

4. Nebula Glass International, Inc., d/b/a Glasslam, N. G. I. Inc. (Plaintiff)
v.
Reichhold, Inc. (Defendant)

United States District Court
Southern District of Florida
Fort Lauderdale Division
Case No. 02-60703-CIV-Dimitrouleas

On the side of the Plaintiff: Williams & Heffling
(Louis L. Williams 561-659-3500)

May 13, 2004

Product failure of a glass laminate used as hurricane glass.

Case was won. Also was supported in appeal.

5. Super Film of America, Inc.
v.
UCB Films, Inc.
v.
Super Film Sanayi Ve Ticaret A.S.

United States District Court
District of Kansas
Topeka Division
Case No. 02-4146-SAC

On the side of the Defendant: Shook, Hardy & Bacon
(David Rameden 913-451-6060)

March 23, 2005

Haze development in a BOPP film laminate.
Case was won.

6. Nelson Design Group, LLC v.
Scoville Press, Inc. and American Spirit Graphics Corporation

State of Minnesota
County of Hennepin
District Court
Fourth Judicial District
Case No. CT 03-12977

On the side of the Defendant: Rider Bennett LLP
(Pat Rooney 612-340-7996)

January 27, 2006

Use of a polypropylene film as a substitute for polyethylene film in a mail package.

Case was lost but award was significantly reduced.

7. Auto Juntas, S.A. (Ajusa) (Spain) v.
Freundenberg-NOK General Partnership (U.S.A.)

International Chamber of Commerce
International Court of Arbitration
Case No. 13655/CCO

On the side of the Defendant: Latham & Watkins
(Jose Manuel Garcia Represa)

October 18, 2006 Paris, France

Trade secret violation regarding automotive head gasket technology.

8. Watson Standard Limited v.
Dwight L. Stephens and Jamestown Paint Company

Court of Common Pleas
Allegheny County, Pennsylvania
Case No. GD-06-25278

On the side of the Defendant: Ekker, Kuster, McConnell, & Epstein, LLP
(Richard Epstein)

July 24, 2007 Pittsburgh, PA

Trade secret violation regarding coating formulations for flexible packaging.

9. Reeves Development
v.
No. 2003-001508 Div.G Earnest Hamilton, Sr. et. al.

Reichhold, Inc.

United States District Court
Southern District of Florida
Fort Lauderdale Division
Case No. 02-60703-CIV-Dimitrouleas

On the side of the plaintiff: Williams and Heffling
John D. Heffling

Deposition on April 26, 2004

Product failure of a glass laminate used as hurricane glass.

4. M&M Technologies,Inc.
v.
Gurtler Chemicals, Inc.

United States District Court
District of Delaware
Civil No. 03-994 GMS

On the side of the defendant: Gardiner, Koch, and Weisberg
(Matt Sidor)

Deposition on August 3, 2005

Patent infringement regarding a waterproofing laundry treatment.

5. Coverstar, Inc.
v.
Cooley, Inc.

United States District Court
District of Utah
Central Division
Case No. 2:01 CV-0663 S

On the side of the Plaintiff: Hill, Johnson & Schmutz
(Kelly Nash)

Deposition on March 31, 2006

Polypropylene sheets failed in a pool cover application.

6. Deborah Ann Savage
v.
Sulzer Ortopedics, Inc.
And Sulzer Medica, USA

District Court of Harris County, Texas
152nd Judicial District
Houston, Texas
Cause No. 2001-15174-A

On the side of the Defense: Shook, Hardy, & Bacon
(Scott Michelman)

Deposition on April 24, 2006

Contamination of a hip replacement device.

7. Gabriel Performance Products, LLC
v.
Cognis Corporation

Ashtabula County Court of Common Pleas
Case No. 04CV353

On the side of the Defense: Thompson Hine
(Steve Butler)

Deposition on August 21, 2006

Trade secret involving manufacture of Capcure 3-800.

8. Frank Marsella and Maureen Marsella
v.
Monaco Coach Corporation and Chevrolet Motors, a Division of General Motors Corporation

United States District Court for the Eastern District of Pennsylvania
Civil Action No. 05-CV-05717

On the side of the Defense: Dickie, McCamey & Chilcote
(Anthony J. Williott)

Deposition on August 29, 2006

Personal injury case involving a cracked HDPE coolant recovery reservoir.

Case was favorably settled out of court.

9. Nebula Glass International, Inc., d/b/a Glasslam N.G.I., Inc.
v.
Reichhold, Inc.

United States District Court
Southern District of Florida

Fort Lauderdale Division
Case No. 02-60703-CIV-Dimitrouleas

On the side of the plaintiff: Williams and Heffling
(John D. Heffling)

Deposition on October 10, 2006

Product failure of a glass laminate used as hurricane glass.

Case was favorably settled out of court.

10. Deceuninck North America, LLC
v.
Bavarian Polymers USA, Inc. et. al.

United States District Court
Eastern District of Arkansas
Western Division 4
Case No. 4:06CV00951 JMM

On the side of the plaintiff: Shefsky & Froelich, Ltd
(Jack Haggerty)

Deposition on November 9, 2006

Trade secret involving window lineal design.

11. Armando Munoz Ramos, et. al.,
v.
Roberts Irrigation Products

Superior Court
State of California
San Diego County
Case No. GIC857176

On the side of the plaintiff: Caddell & Chapman
(Gregory K. Evans)

Deposition on March 29, 2007

Failure of LLDPE irrigation tapes in Mexican farm fields.

12. Davidson Builders, et al
v.
J&B Manufacturing Corp., et al

Superior Court

State of California
San Diego County
Central Division
Case No. GIC 816002

On the side of the Defense: (Cascade Sash and Specialties) — Sturgeon & Wehbe LLP (E. Allen Sturgeon)

Deposition on November 15, 2007

Peeling paint on doors and windows installed in houses in California.

13. Schultz
v.
Inland Industries, Inc. et al

Circuit Court
Vermillion County, Illinois
Case No. 07 L 12

On the side of the plaintiff: — Clifford Law (Richard Burke)

Deposition on November 26, 2007

Failure of a nylon sling resulting in personal injury.

14. Innovation Fiberglass Products Inc.
v.
Akzo Nobel Coatings Inc. et.al.

Superior Court of California
County of Riverside
Case No. CV06-08202 VBF(EX)

On the side of the defendant: — Sedgwick, Detert, Moran & Arnold, LLP (Hall Marston)

Deposition on September 10, 2007

Coating failure on FRP truck caps.

15. Mikhail Darafeev, Inc.
v.
Akzo Nobel Coatings Inc. et.al.

Superior Court of the State of California
County of Los Angeles
Case No. BC353725

On the side of the defendant: Sedgwick, Detert, Moran & Arnold, LLP
(Hall Marston)

Deposition on March 10, 2008

Coating failure on wood furniture.

16. JELD-WEN
v.
Glasslam

United States District Court
Southern District of Florida
Fort Lauderdale Division
Case No. 07-22326

On the side of the defendant: Williams and Heffling
(Lewis Williams)

Deposition on March 26, 2008

Laminated glass failure

17. Reeves Development
v.
No. 2003-001508 Div.G Earnest Hamilton, Sr. et. al.

14th Judicial District Court
Parish of Calcasieu
State of Louisiana

On the side of the defendant: Johnson and Vercher, LLC
(Terry Johnson)

Deposition on March 26, 2008

Paint failure – telegraphing of joints through exterior topcoat on HardiPanels

18. Simmons Pet Food, Inc.
v.
The Glidden Company, d/b/a ICI Paints, d/b/a ICI Packaging Coatings

United States District Court
Western District of Arkansas
Fayetteville Division
Civil Action File No. 08-5247

On the side of the plaintiff: Conner and Winters
(Kerri Kobbeman)

Deposition on October 22, 2009

Coating failure on the inside of cans used to package pet food

19. Kinetic Concepts, Inc., KCI Licensing, Inc.,
KCI USA Inc., and Wake Forest University Health Sciences
v.
Bluesky Medical Group, Inc., and
Smith & Nephew, Inc.

United States District Court
Western District of Texas
San Antonio Division

On the side of the plaintiff: Akin and Gump
(Dan Moffett)

Deposition on November 6, 2009

Water vapor transmission rate on a surgical wound dressing

Compensation

I am compensated at the rate of $400.00 per hour.

IV. OPINIONS

The following are my opinions based upon a reasonable degree of scientific certainty.

1. **The Dow Corning InstantGlaze I and II products were not appropriate for industrial use.**

Industrial processes require a certain amount of consistency in the materials used due to the automated equipment employed and the speed of processing. The InstantGlaze products were not consistent batch to batch nor sometimes even drum to drum. The inconsistency in the InstantGlaze products was verified in the laboratory.[17] Samples were found to be inconsistent within a drum based on FTIR analysis, and Shore A hardness values varied widely from 21.3 to 67.3 compared to a reported typical value of 60. This inconsistency in the InstantGlaze products then resulted in the loss of window manufacturing efficiency due to the need for constant manual adjustments in the processing line such as temperature changes in the product application, larger or smaller beads to be applied, head location changes, nozzle adjustments, and nozzle

temperature adjustments. In turn, these adjustments led to more material cost, equipment cost, and testing costs. Needless to say, optimum window and door products were not produced while these adjustments to the process were being made which led to testing failures and field failures.[18]

Dow Corning claims that they manufactured to Sales Specifications. The Sales Specifications however only included two properties: appearance and plasticity. Appearance indicated that the product was clear. Plasticity values, a measure of stiffness, were defined as a range from 0.85 to 1.25 for InstantGlaze I.. This range was proposed by Dow Corning even though Weather Shield wanted a more narrow range of 0.94 to 1.06 which was beyond Dow Corning's capabilities.[19] The plasticity range suggested by Dow Corning was very broad and was mostly achieved by lot selection, or even drum selection.[20] These Sales Specifications were not provided to Weather Shield early on so as to guide their selection and evaluation process but were provided more recently after issues were found. Even then, many lots of InstantGlaze only had an appearance value listed on their Sales Specification sheet with no plasticity value. Usually plasticity values were only supplied when requested by Weather Shield.[18]

In the beginning Weather Shield was provided only typical properties which stipulated among other properties green strength and Shore A hardness. The required green strength was not achieved and the Shore A hardness was variable. Again inconsistency in the InstantGlaze materials resulted in properties far removed from the typical properties.

The industrial manufacturing of windows and doors requires a tight range of tolerances on component properties such as glazing properties, especially on those properties such as plasticity that directly affect processing. It is not possible to maintain tight processing control in window manufacturing, as most quality systems require, when a component such as the glazing material has such variability within itself. It is a frustrating and expensive experience to constantly make process adjustments to accommodate such a component. Therefore, InstantGlaze I and II do not fit the requirement for industrial materials.

2. Variability in the plasticity of the InstantGlaze I and II products resulted in non-uniform and inconsistent bead application leading to field failures.

a. Application of a thick bead resulted in too little squeeze out.

When the glaze was too stiff (low plasticity), it would not penetrate into corners leaving voids. Also, the thick glaze resulted in a thick bead being applied. The thick bead did not allow the window glass to squeeze out enough glaze leaving the glass too high in the frame. Also, grills used to simulate divided glass (SDL's) were too high in the window frame and would not fit properly. These issues then had to be corrected manually.

b. **Application of a thin bead resulted in too much squeeze out.**

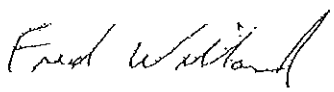
When the glaze was too thin (high plasticity), the glaze bead would squeeze out and not support the window glass leading to the use of glazing shims to support the glass. Also, the thin glaze bead allowed window glass to sink in too far and then the SDL's were too low and would not fit properly. Corrections had to be made manually. Sometimes the SDL's would pop off in the field.[21]

3. **InstantGlaze I and II failed to completely harden which led to field failures and increased liability of leaky windows into the future.**

A failed window recovered from the field indicated voids near corners and a drip along two edges. This defective window was shipped, sold, installed, and then failed in the field after a relatively short period of time. Laboratory testing on this defective window determined that the glazing was still tacky and appeared uncured.[17] These observations further illustrate the Weather Shield complaint that the InstantGlaze never really cures.[22] The concern is that there might be many more such windows still in the field.

V. CONCLUSION

Within a reasonable degree of scientific certainty, it appears that the InstantGlaze products were not suitable as industrial products due to wide variability in plasticity (stiffness) and lack of cure.



G. Fred Willard, Ph.D.
Vice President – Technology

December 9, 2009